

WHAT IS CLAIMED IS:

1. A glass strand coated with an aqueous sizing composition, characterized in that said composition 5 comprises, as film-forming adhesion agents, at least one polyester, at least one polyvinyl acetate and at least one polyurethane.
2. The glass strand as claimed in claim 1, 10 characterized in that the polyester has a molecular weight varying from 4000 to 17 000 g/mol.
3. The glass strand as claimed in claim 1 or 2, 15 characterized in that the polyester is obtained by reaction of polycarboxylic acid(s) and/or of anhydride(s) of these acids and of polyol(s).
4. The glass strand as claimed in claim 3, 20 characterized in that the acid is chosen from saturated, unsaturated or aromatic diacids, such as fumaric acid, isophthalic acid and terephthalic acid, the anhydride is chosen from phthalic anhydride and maleic anhydride, and the polyol is chosen from polyalkylene glycols, such as ethylene glycol and 25 propylene glycol, aromatic polyols, such as bisphenol A or F, and novolaks.
5. The glass strand as claimed in one of claims 1 to 4, characterized in that the polyvinyl acetate has a 30 molecular weight of less than 80 000 g/mol, preferably of less than 70 000 g/mol.
6. The glass strand as claimed in one of claims 1 to 5, characterized in that the polyurethane results from 35 the reaction of at least one polyisocyanate and of at least one polyol comprising an aliphatic and/or cycloaliphatic chain.
7. The glass strand as claimed in one of claims 1 to

6, characterized in that the polyurethane has a molecular weight of less than 20 000 g/mol, preferably of between 4000 and 15 000 g/mol.

5 8. The glass strand as claimed in one of claims 1 to 7, characterized in that the composition additionally comprises a lubricating agent.

9. The glass strand as claimed in claim 8, 10 characterized in that the lubricating agent is chosen from cationic compounds of the polyalkyleneimide type and nonionic compounds of the esters of fatty acids and of poly(alkylene glycol)/poly(oxyalkylene) type or of the poly(oxyalkylenated) fatty amides type.

15 10. The glass strand as claimed in one of claims 1 to 9, characterized in that the composition additionally comprises a coupling agent chosen from silanes, siloxanes, titanates, zirconates and mixtures of these 20 compounds.

11. The glass strand as claimed in claim 10, characterized in that the coupling agent comprises an unsaturated silane and an aminosilane.

25 12. The glass strand as claimed in claim 11, characterized in that the unsaturated silane includes at least one acrylic or methacrylic functional group and the aminosilane is bis( $\gamma$ -trimethoxysilylpropyl)- 30 silane or bis( $\gamma$ -triethoxysilylpropyl)silane.

13. The glass strand as claimed in one of claims 1 to 12, characterized in that it exhibits a loss on ignition of less than 2.2%, preferably of greater than 35 1%.

14. The glass strand as claimed in one of claims 1 to 13, characterized in that it is composed of filaments with a diameter varying from 9 to 17  $\mu\text{m}$ .

15. The glass strand as claimed in one of claims 1 to 14, characterized in that it exhibits a count of between 30 and 160 tex, preferably 40 and 60 tex.

5 16. The glass strand as claimed in one of claims 1 to 15, characterized in that it additionally comprises an oversize including an antistatic agent of the quaternary ammonium salt type.

10 17. The glass strand as claimed in claim 16, characterized in that the quaternary ammonium salt is cetyltrimethylammonium chloride.

15 18. A sizing composition intended to coat glass strands as claimed in one of claims 1 to 17, characterized in that it comprises an aqueous blend of at least one polyester, of at least one polyvinyl acetate and of at least one polyurethane.

20 19. The composition as claimed in claim 18, characterized in that it comprises the constituents below in the following contents by weight, expressed as percentages of the solid materials:

- 50 to 80% of at least one polyester, preferably 50 to 70%,
- 10 to 40% of at least one polyvinyl acetate, preferably 20 to 30%,
- 8 to 15% of at least one polyurethane, preferably 8 to 10%,
- 0 to 5% of at least one lubricating agent,
- 1 to 6% of at least one coupling agent, preferably equal to or greater than 1.5%.

25 20. The composition as claimed in claim 18 or 19, characterized in that it comprises 5 to 15% by weight of solid materials, preferably 6 to 11%.

30 21. A composite comprising at least one thermosetting polymer material and reinforcing glass strands,

characterized in that all or part of the strands are composed of strands as claimed in one of claims 1 to 17.

5 22. The composite as claimed in claim 21, characterized in that the thermosetting material is a polyester, a vinyl ester, an acrylic polymer, a phenolic resin or an epoxy resin.

10 23. The composite as claimed in claim 21 or 22, characterized in that it comprises 20 to 45% by weight of glass.

15 24. The use of the glass strands as claimed in one of claims 1 to 17 in the production of components by the open mold molding technique, in particular by simultaneous spraying of said strands and of resin.

20 25. The use of the glass strands as claimed in one of claims 1 to 17 in the production of pipes by the centrifuging technique by simultaneous spraying of said strands and of resin.